

An Impregnated Cathode for Thyratrons

NOV/100-3-0-10/1

0.3 mm; a cathode of this type produced a current of 0.35 mA during 100 hours. On the whole, it was found that the impregnated cathodes were satisfactory; it was possible to obtain a current of 0.35 mA at 5 kV for a duration of 100 hours without any special device for impregnation. The results of the impregnation of the cathodes are reported by Engineer V. L. Kuvshinov. There are 7 figures and 2 English references.

SUBMITTED: January 29, 1960

Card 3/3

1. Thyratrons--Production
2. Cathodes (Electron tube)--Materials
3. Cathodes: Electron tube --Properties
4. Cathodes: Electron tube --Performance

AUTHORS: Pivovarov, G. Ya., Semenov, Iu. 44-22-5-20 22

TITLE: Some Technological Methods in the Reduction of Leakage Currents: Cathode Heater (Nekotoryye ~~tekhnologicheskiye~~ sposoby umen'sheniya tokov utechki: katodopolovneniye) Data From the VIII-th All-Union Conference on Cathode-Electronics, Leningrad, October 17-24, 1957 (Materialy VIII Vsesoyuznogo soveshchaniya po katodnoy elektronike, Leningrad, 17-24 oktyabrya 1957 g.)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1958, Vol. 22, Nr 5, pp. 642-644 (USSR)

ABSTRACT: Some waste in the production of receiver-amplifier valves and of other apparatuses with a heatable cathode is due to the cause mentioned in the title. There are various causes for such currents and their magnitudes are variable. In this investigation the following factors were stressed: purity of the inner surface of the cathode, pores, the granular composition of the alundum, admixtures occurring in the alundum and the time necessary to secure a proper performance of the valve. The purpose of the investigation was purely functional and it was done under working conditions on super-miniature valves. In the beginning of the production of these valves 60dB

Card 1/3

Some Technological Methods in the Reduction
of Leakage Currents Cathode Heater

42-20-5-10

(diameter of cathode core 0,6 mm), a high percentage of waste resulted from leakage currents cathode heater. About 60% of the heaters had drops of nickel on the surface (figure 1) which also caused short circuits. As ultrasonic cleaning of the cores in trichloroacetic ethylene has eliminated this phenomenon almost entirely, reducing the waste by 40%. The structure of the aluminum is known to influence the quality of heaters which have been produced in the "railroad" method, considerably. The grain sizes of the micro-powder (alundum) were, according to the author's wish, reduced to 2 - 5 - 7 and 10 - 14μ by the producer. The figure 3 shows the results of the tests of heaters with the former and latter grain sizes of the valve 6Zh1B, as far as the duration of the working phase is concerned. With fine alundum the amount of leakage current rises up to 10 or 11 μA, respectively with positive or negative polarity, with coarser alundum it is 9 and 1 μA. Chemical admixtures affect both the quality of alundum suspension for the cataphoretical method of application and the said leakage currents. Character-

Card 2/3

Some Technological Methods in the Reduction
of Leakage Currents: Cathode Heater

49-22-5-22/22

teristics of the alundum lots are given in the table (p.643).
A greater quantity of admixtures leads to a rise of the elec-
tric conductivity of alundum in water. Unsatisfactory lots
of alundum could be purified from admixtures by twice-re-
peated cooking in distilled water and heating up to 850 -
- 900°C. In conclusion data on the burning-in of the
valves are given (by A. R. Shul'man). -K.G. Kondrashova,
Fridkhov (Frid'), B.I. Vasserman, O.Ya. Wlodik, I.I.
Pepenova and the first author joined in the discussion. There
are 3 figures, 1 table, and 1 reference.

1. Filaments--Effectiveness 2. Filaments--Coatings 3. Electron
tubes--Efficiency 4. Sintered aluminum coatings--Properties

Card 3/3

PIVOTAROV, I.

F

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201.20
1.2

Proverka Gernmetichnosti i na kachestven Pr yslakh. Inspection
of the Air Tightness of Pipes in the Oil Industry, by I. I. Pivovarov
i I. D. Khod'Yanova. Izdat, Azneftezint, 1974.

53 p. Diagrams, tables.

"Literatura": p. (54)

PIVOVAROV, I.F.; MAMED-YAROVA, Z.D.; DADASHEV, B.B., redaktor; MAMEDOV,
A.G., tekhnicheskiy redaktor

[Testing sealing qualities of pipes in oil fields] Proverka
germetichnosti trub na neftiannykh promyslakh. Baku, Gos.nauchno-
tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, Azerbaidzhanskoe
otd-nie, 1954. 53 p. [Microfilm] (MIRA 10:1)
(Pipe, Steel)

SOV. 17-59-1-7-59

Translation from Referativnyy zhurnal. Metallurgiya, 1959, No 5, p. 54 (USSR)

AUTHORS: Pivovarov, I. F., Ganiyev, S. M.

TITLE: A Device for Normalization of Welded Seams of Pipes Employed in Geological Prospecting (Ustanovka dlya normalizatsii svarnykh shvov geologorazvedochnykh trub)

PERIODICAL: Novosti nefti tekhn. Neftepromysl. delo, 1958, No 7, pp. 26-28

ABSTRACT: A description of a semiautomatic device designed to perform the operations of normalization of welded seams of pipes employed in geological prospecting. The installation consists of a frequency converter, an induction device permitting heating of the seam area by means of HF currents (a description of the device is given), three control pulpits containing also the automatic apparatus, and a conveyor. A generator of the type PVS-100/2500 serves as a frequency converter. Stable results are achieved by means of automatically maintaining the generator voltage at a constant value with the aid of an amplifier of the type EMU-12 and by controlling the heating time with the aid of a time-delay relay. The temperature fluctuations in the zone of heating of the pipe vary within the allowable limits of

Card 1 2

SOV 137-59-117154

A Device for Normalization of Welded Seams of Pipes (cont.)

[980±50°C]. The power supplied to the induction device amounts to 5 kw. The heating time constituting 25 seconds. The consumption of electrical energy of one connection of a 60-mm pipe amounts to 145 kw.h.

V. A.

Card 2/2

PIVOVAROV, I.F.; GUSEYNOV, M.A.

Improving the technology and equipment for straightening
pipes and drill-pipe parts. Mash. i nef. obor. no.9:15-20
'63. (MIRA 17:2)

1. Azerbaydzhanskiy truboprokatnyy zavod im. Lenina i
Azerbaydzhanskiy nauchno-issledovatel'skiy institut po
bureniyu neftyanykh i gazovykh skvazhin.

ALLAKHVERDIYEVA, V.A., inzhener; BABALYAN, N.A., inzhener; GUSEYNOV, M.A.,
inzhener; GUSEYNOV, S.B., inzhener; DADSHEV, B.B., kand.tekhn.nauk;
KORNEV, T.N., kand.tekhn.nauk; LUKOD'YANOV, I.B., inzhener;
MAMED'YAROVA, Z.D., inzhener; PIVOVAROV, I.F., inzhener; SAROYAN, A.Ye.,
inzhener; SHNEYDEROV, M.R., kand.tekhn.nauk; SHVARTSMAN, L.A., kand.
tekhn.nauk; ERLIKH, G.M., inzhener; AL'TMAN, T.B., red.izdatel'stva.

[Reference manual on pipes used in petroleum engineering] Spravochnik
po neftepromyslovym trubam. Baku, Azerbaidzhanskoe gos.izd-vo nefi.
i nauchno-tekhn.lit-ry, 1957. 446 p. (MIRA 10:12)
(Pipe)

Pivovarov, L. Kh.

The effect of bonding phase.

Title: Seminar on refractory metals, compounds, and alloys (Kiev, April 1963).

Source: Atomnaya energiya, v. 15, no. 3, 1963, 266-267

RYABKO, Khariton Grigor'yevich; BRAUN, Mark Naumovich; CHERNAY, Oleg Aleksandrovich; PIVOVAROV, Konstantin Stepanovich; SOLYALIK, Yu.P., inzh., red.; ONISHCHENKO, V.P., inzh., red.

[Small machine-tool units; manufacture and operation] Malye agregatnye stanki; proizvodstvo i ekspluatatsiia. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1966. 109 p. (MIRA 13:1)

(Machine tools)

UPANSKIY, Ya.; YELYUTINA, V.; KAGAN, A.; PIVOVAROV, I.

X-ray analysis of changes in the mosaic structure of aging beryllium bronze. Kristallografiia 2 no.4:503-507 '57. (MLRA 1958)

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(Copper-tin-beryllium alloys--Metallography)

~~PIVCHARGOV, Lev Aleksandrovich~~; CHUDNOVSKIY, S.V., inzh., retsenzent;
SINGOYEVSKIY, K.V., red.; GERNOSTAYPOL'SKAYA, M.S., tekhn.
red.

[Safety measures for the cold working of metals] Tekhnika bez-
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(Metalwork--Safety measures)

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V.L., red.izd-va; SKRIPKINA, Z.I., red.izd-va; ANOKHINA,
M.G., tekhn. red.

[Radioisotope techniques in automatic control] Radioizotop-
nye metody avtomaticheskogo kontrolia; trudy rasshirennogo
soveshchaniia.... Frunze. Izd-vo Akad. nauk Kirgizskoi SSh.
Vol.2. 1962. 235 p. (MIRA 16:4)

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Lev Aleksandrovich; SKRIPNICHENKO, Dmitriy Pavlovich; MOSKOV, W.M.,
~~Redaktor~~; KHITROV, P.A., tekhnicheskii redaktor

[Hardening of locomotive parts by high frequency current] Zakalka
parovoznykh detalei tokami vysokoi chastoty; opyt depo imeni A.A.
Andreeva st. Kiev-passazhirskii. Moskva, Gos. transp. shel-dor.
isd-vo, 1954. 109 p. (MLRA 8:6)

(Steel--Heat treatment) (Induction heating)

114
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MAN, M.P.; KUZNETSOV, T.P.; PIVOVAROV, L.A., inzhener, retsensent;
SHAROYKO, P.M., inzhener, retsensent; TORIK, E.A., inzhener, retsen-
sent; KIRILLOV, Yu.G., inzhener, retsensent; SHVEDOV, N.A., inzhener,
retsensent; RUDENSKIY, Ya., tekhredaktor.

[Locomotives]Parovozy. Pt. 2. [Theory, design, and calculations for
machinery, underframe, and auxiliary parts. Dynamics, traction calcu-
lations, and brief information on operation] Teoriia, konstruktsiia i
raschet mashiny, ekipazha i vspomogatel'nykh ustroist, dinamika, tiago-
vye raschety i kratkie svedeniia po eksploataatsii. Kiev, Gos. nauchno-
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[Microfilm]

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PIVOVAROV, L. A., Cand of Tech Sci -- (diss) "Investigation of the working Conditions of an Locomotive Air Cleaner for the Purpose of Designing an Air Cleaner," Moscow, 1959, 12 pp (Moscow Institute of Engineers of Railroad Transport in Stalin) (KL, 1-60, 122)

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MIIT no.110:26-47 '59. (MIRA 13:4)
(Diesel locomotives) (Air filters)

MAKHAN'KO, M.G.; PIVOVAROV, L.A.

Methods of laboratory testing of diesel locomotive air filters.

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(Air filters--Testing)

PIVOVAROV, L.A., inzh.

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stand. Trudy MIIT no.122:112-122 '59. (MIRA 13:5)
(Air filters--Testing) (Diesel locomotives)

PIVOVAROV, L.A., inzh.

Selecting an efficient design for air filters of diesel
locomotives. Vest.TSNII MPS 18 no.6:22-24 8 '59.
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2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 2681, 2682, 2683, 2684, 2685, 2686, 2687, 2688, 2689, 2690, 2691, 2692, 2693, 2694, 2695, 2696, 2697, 2698, 2699, 2700, 2701, 2702, 2703, 2704, 2705, 2706, 2707, 2708, 2709, 2710, 2711, 2712, 2713, 2714, 2715, 2716, 2717, 2718, 2719, 2720, 2721, 2722, 2723, 2724, 2725, 2726, 2727, 2728, 2729, 2730, 2731, 2732, 2733, 2734, 2735, 2736, 2737, 2738, 2739, 2740, 2741, 2742, 2743, 2744, 2745, 2746, 2747, 2748, 2749, 2750, 2751, 2752, 2753, 2754, 2755, 2756, 2757, 2758, 2759, 2760, 2761, 2762, 2763, 2764, 2765, 2766, 2767, 2768, 2769, 2770, 2771, 2772, 2773, 2774, 2775, 2776, 2777, 2778, 2779, 2780, 2781, 2782, 2783, 2784, 2785, 2786, 2787, 2788, 2789, 2790, 2791, 2792, 2793, 2794, 2795, 2796, 2797, 2798, 2799, 2800, 2801, 2802, 2803, 2804, 2805, 2806, 2807, 2808, 2809, 2810, 2811, 2812, 2813, 2814, 2815, 2816, 2817, 2818, 2819, 2820, 2821, 2822, 2823, 2824, 2825, 2826, 2827, 2828, 2829, 2830, 2831, 2832, 2833, 2834, 2835, 2836, 2837, 2838, 2839, 2840, 2841, 2842, 2843, 2844, 2845, 2846, 2847, 2848, 2849, 2850, 2851, 2852, 2853, 2854, 2855, 2856, 2857, 2858, 2859, 2860, 2861, 2862, 2863, 2864, 2865, 2866, 2867, 2868, 2869, 2870, 2871, 2872, 2873, 2874, 2875, 2876, 2877, 2878, 2879, 2880, 2881, 2882, 2883, 2884, 2885, 2886, 2887, 2888, 2889, 2890, 2891, 2892, 2893, 2894, 2895, 2896, 2897, 2898, 2899, 2900, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 2908, 2909, 2910, 2911, 2912, 2913, 2914, 2915, 2916, 2917, 2918, 2919, 2920, 2921, 2922, 2923, 2924, 2925, 2926, 2927, 2928, 2929, 2930, 2931, 2932, 2933, 2934, 2935, 2936, 2937, 2938, 2939, 2940, 2941, 2942, 2943, 2944, 2945, 2946, 2947, 2948, 2949, 2950, 2951, 2952, 2953, 2954, 2955, 2956, 2957, 2958, 2959, 2960, 2961, 2962, 2963, 2964, 2965, 2966, 2967, 2968, 2969, 2970, 2971, 2972, 2973, 2974, 2975, 2976, 2977, 2978, 2979, 2980, 2981, 2982, 2983, 2984, 2985, 2986, 2987, 2988, 2989, 2990, 2991, 2992, 2993, 2994, 2995, 2996, 2997, 2998, 2999, 3000, 3001, 3002, 3003, 3004, 3005, 3006, 3007, 3008, 3009, 3010, 3011, 3012, 3013, 3014, 3015, 3016, 3017, 3018, 3019, 3020, 3021, 3022, 3023, 3024, 3025, 3026, 3027, 3028, 3029, 3030, 3031, 3032, 3033, 3034, 3035, 3036, 3037, 3038, 3039, 3040, 3041, 3042, 3043, 3044, 3045, 3046, 3047, 3048, 3049, 3050, 3051, 3052, 3053, 3054, 3055, 3056, 3057, 3058, 3059, 3060, 3061, 3062, 3063, 3064, 3065, 3066, 3067, 3068, 3069, 3070, 3071, 3072, 3073, 3074, 3075, 3076, 3077, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3085, 3086, 3087, 3088, 3089, 3090, 3091, 3092, 3093, 3094, 3095, 3096, 3097, 3098, 3099, 3100, 3101, 3102, 3103, 3104, 3105, 3106, 3107, 3108, 3109, 3110, 3111, 3112, 3113, 3114, 3115, 3116, 3117, 3118, 3119, 3120, 3121, 3122, 3123, 3124, 3125, 3126, 3127, 3128, 3129, 3130, 3131, 3132, 3133, 3134, 3135, 3136, 3137, 3138, 3139, 3140, 3141, 3142, 3143, 3144, 3145, 3146, 3147, 3148, 3149, 3150, 3151, 3152, 3153, 3154, 3155, 3156, 3157, 3158, 3159, 3160, 3161, 3162, 3163, 3164, 3165, 3166, 3167, 3168, 3169, 3170, 3171, 31

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777
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D249/D302

AUTHOR: Pivovarov, L.A.

TITLE: Application of the phenomenon of gamma-ray absorption to automatic control of the composition of composite media

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika no. 4, 1961, 33, abstract 4 A218 (V so Avtomat upravleniye, M., AN SSSR, 1960, 175-182)

TEXT: The basic processes of the interaction between a radioactive radiation and substance are briefly outlined. It is shown that for gamma-ray absorption by a composite medium there exists an equality which has on its R.H.S. the mass absorption coefficient for the whole medium, and on its L.H.S., the sum of the products of the individual component mass absorption coefficient and individual component concentration in the mixture. For a number of gamma-ray sources a system of linear algebraic equations of the first degree

Card 1/1

Application of the phenomenon...

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D249/D302

can be formed. If the absorption coefficients for the individual components are known, the problem of determining their concentration is reduced to automatic solving by means of a computer of a system of equations, the R.H.S. of which (i.e. mixture absorption coefficients) is being determined continuously during measurement. Recommendations are made regarding the choice of suitable radiation sources. To determine concentrations of n components the number of sources required is $(n-1)$, since the sum of the concentrations is equal to unity. To secure a high-accuracy solution for the system of equations it is necessary that the component absorption coefficients differ as much as possible from each other. The strongest dependence of the absorption coefficient on the mixture composition is observed in the case when the photo-effect is the predominant process of the interaction. In this connection it is advisable to choose soft gamma-ray source with energies not exceeding 0.3 - 0.5 meV. Retarded radiation can also be used. A description of the experimental apparatus is given together with results of measurements. [Abstracter's note: Complete translation]

Card 2/2

PIVOVAROV, L.

70-4-9/16

AUTHOR: Umanskiy, Ya., Yelyutina, V., Kagan, A. and Pivovarov, L.

TITLE: X-ray analysis of the changes in the mosaic structure during ageing of beryllium bronze. (Rentgenoanaliz izmeneniya mozaichnoy struktury pri starenii berilliyevoy bronzy)

PERIODICAL: "Kristallografiya" (Crystallography), 1957, Vol.2, No.4, pp. 503 - 507 (U.S.S.R.)

ABSTRACT: Disintegration of supersaturated solid solutions, as shown by means of X-rays, is followed by changes in mosaic structure, maximum hardness corresponding to minimum size of mosaic blocks.

A study of the disintegration of supersaturated solid solution of tungsten carbide in titanium carbide carried out by one of the authors showed that this process in its early stage is accompanied by an increase in the intensity of the (200) diffraction line of the solid solution. This increase could only be interpreted as caused by a decrease in the size of mosaic blocks of titanium carbide due to the influence of particles of precipitating phase. A similar increase of intensity was observed by other investigators after decrease of block dimensions caused by plastic deformation.

Card 1/4 In the present investigation this assumption was studied

70-4-9/16

X-ray analysis of the changes in the mosaic structure during ageing of beryllium bronze. (Cont.)
on Ni-Be and Cu-Be alloys containing 2.28% and 2.40% Be, respectively. Nickel content in the latter alloy was about 0.37%.

The intensity of the (111) diffraction line was measured. It was proved that the disintegration of solid solution after an isothermal annealing of quenched Ni-Be alloys at 630 C and a similar annealing of quenched Cu-Be alloys at 250 and 320 C is followed in its early stages by an increase in the intensity of this diffraction line. The corresponding curve for Ni-Be alloy has a sharp maximum after 10 min. annealing at 630 C, that for Cu-Be alloy has a sloping maximum after 10 hours annealing at 320 C.

Calculations based on the equation $I'/I = \text{th}(nq)/nq$ (i.e. taking into account only primary extinction) yielded the following data on the hardness and the block dimensions of heat-treated alloys at various break-up stages:

Card 2/4

blocks, whereas the decrease of hardness after over-ageing is due to their coagulation. There are 4 figures, two tables and 7 references of which are Slavic.

ASSOCIATION of Steel im. I.V. Stalin (Moskovskiy Institut Stali im. I.V. Stalina)

APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R0013

Card 3/4

70-4-9/16
X-ray analysis of the changes in the mosaic structure during
ageing of beryllium bronze. (Cont.)

SUBMITTED: February 28, 1957,
AVAILABLE: Library of Congress.

Card 4/4

ACCESSION NR: AP4044910

S/0226/64/000/004/0043/0:57

AUTHOR: Ivensen, V. A. , Eyduk, O. N. , Pivovarov, L. Kh.

TITLE: Some regularities in the deformation of sintered hard alloys of WC-Co

SOURCE: Poroshkovaya metallurgiya, no. 4, 1964, 43-57

TOPIC TAGS: sintered alloy, powder alloy, tungsten carbide, hard alloy, cobalt alloy, tungsten carbide alloy, alloy deformation, plastic deformation, alloy structure, yield point

ABSTRACT: It has recently been established that there is no direct relationship between the bending strength of a hard alloy and its notch toughness, and this fact has attracted interest to phenomena connected with the deformation of hard alloys. However, the relative deformations of the cobalt and the carbide phases and their separate roles in the total deformation process have not yet been clarified. In order to fill this gap, the present authors investigated the hard alloy WC-Co with respect to plastic deformation and its dependence on the composition (6-50% Co) and structure (fine grain and coarse grain). Prismatic test specimens (10x10x20 mm) of the hard alloy were deformed under the influence of gradually increasing uniaxial compressive loads. The residual

ACCESSION NR: AP4044910

deformation was measured by an optometer and the yield point was determined from logarithmic stress-strain curves, corresponding to a permanent strain of 0.1%. The lateral faces of the specimens were ground and polished before the tests, and some of the specimens were subjected to X-ray investigations before and after deformation. Such specimens were annealed at 800C before deformation to remove the strain-hardening effect produced by the grinding. The width of the radiospectrographic lines was measured by the ionization method. Grain size and angle of disorientation were computed from the number and size of the reflexes obtained photographically. These studies revealed plastic deformation of the tungsten carbide grains, as indicated by numerous bands of slippage appearing on the surface of the grains after deformation, as well as by an increase in the number of reflexes on the X-ray picture. The yield point of the hard alloy was found to be directly proportional to the relative value of the contact surface of the tungsten carbide grains. The resistance to deformation of the alloy in the initial stages is determined mainly by the resistance to deformation of the carbide skeleton. It is only after further deformation that the resistance to deformation of the strain-hardened cobalt phase is manifested. The mechanism of deformation of the carbide skeleton of the alloy does not differ in principle from that of a polycrystalline

Page 2/3

ACCESSION NR: AP4044910

metal. Orig. art. has: 4 graphs, 15 photomicrographs and 6 tables.

ASSOCIATION: Vsesoyuzny'y nauchno-issledovatel'skiy institut tverdy'kh splavov
(All-Union Scientific Research Institute of Hard Alloys)

SUBMITTED: 15Aug63

ENCL: 00

SUB CODE: MM

NO REF SOV: 003

OTHER: 006

3/3

Cr

447

Oxidation of alloys containing the compound NiAl .
 (S. I. Moskalov, L. Kh. Pirogov, and Ya. S. Umanets,
Steel Inst. Moscow, 1987, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000). The heat resistance of Ni-Al alloys was studied
 and for comparison, that of Ni (99.95%) and CoAl was
 detd. Alloy 1, contg. Ni 64.44 and Al 34.40 wt. %, was
 similar to alloy 4, contg. Co 63.89 and Al 33.84%. Alloys
 2 and 3 contained Ni 73.47 and 81 and Al 26.86 and 19.00%,
 resp. Alloy 3 prep'd. by powd. metallurgy was of different
 porosities (2.7-31.2%). The other alloys were cast. The
 heat resistance evaluated by the gain in wt. G , mg./sq.
 cm., of the Ni-Al alloys was higher at 1100° than that of
 Ni at 1000° (except of alloy 3 with a porosity less than 3%).
 Alloy 1 was more resistant than alloy 4. The G vs. t (t =
 time, min.) curves of alloy 3 and of Ni at 1100° exhibited
 breaks. This was attributed to cracks in the film caused by
 internal stresses. The G vs. t curves on log. coordinates
 were linear functions expressed by $G^2 = Kt$. The values
 of K of powd. alloy 2, alloy 4, and alloy 3 with porosities
 from 10.7 to 31.2% were 1.0-1.2, 1.7, and 1.6-1.8, resp.
 This indicated that oxidation occurred at the boundary be-
 tween the metal and the film and that the latter was not con-
 trolling. The values of K of alloy 1 (cast and powd.),
 powd. alloy 2, and of Ni were 2.3-2.3, 2.9, and 2.0, resp.
 The x-ray analysis of the films formed at 1200° during 10
 hrs. showed the presence of NiAl and $\text{NiO} \cdot \text{Al}_2\text{O}_3$ in alloy 1;
 NiAl , $\text{NiO} \cdot \text{Al}_2\text{O}_3$, and $\gamma\text{-Al}_2\text{O}_3$ in alloy 2; and NiAl and
 $\text{NiO} \cdot \text{Al}_2\text{O}_3$ in alloy 3. Apparently an excess of Al formed a
 dense film, whereas in the presence of an excess of Ni the
 film was weakened by the formation of NiAl . The compd.
 CoAl was oxidized more than the compd. NiAl . I. B.

18(7), 1958
AUTHORS:

Pivovarov, L. Kn. Umanskiy, Ya. S.

SOV, 153-58-4-31/47

TITLE:

X-Ray Analysis of the Changes of Dimensions of Blocks With Mosaic Structure in Aging (Rentgenoanaliz izmeneniy razmerov blokov mozaichnoy struktury pri starenii)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 4, pp 184 - 188 (USSR)

ABSTRACT:

The changes of block dimensions in aging of the N36Kht and EI437A alloys and of duralumin were determined here by the method of investigating the intensities of near lines. On account of the investigation described here, the following was ascertained: The asymmetry of form of the lines (111) in hardened samples of the EI437A alloy can be explained by means of the data in the paper (Ref 10). These data say that in alloys near, by their composition, to this EI437A alloy decomposition already occurs in hardening and not in the whole volume of alloy. During such decomposition, this alloy shows individual sections with an increased lattice parameter. This causes an asymmetric extension of the (111)-lines in the direction of the small angles. In the continuous aging process (8 hours at 750° and 15 minutes at 880°), the decomposition

Card 1/3

X-Ray Analysis of the Changes of Dimensions of
Blocks With Mosaic Structure in Aging

SOV/103-58-4-31/47

already takes place in the whole alloy volume, and the (111) - line becomes asymmetric. The scattering of the intensity points of the hardened EI437A-alloy samples will have to be explained by the distinctly different grain (Ref 11) and probably by the different block dimensions according to the length of bar. As has been shown before in the paper (Ref 3), the increase in the intensity of near lines in aging occurs at the expense of block refinement. An additional increase in hardness and intensity of the (111)-lines in the samples of the EI437A alloy in heating up to 750° with a preceding aging at 840° for one hour can be explained by the "preliminary decomposition" or "doraspad" of the solid solution, causing a refinement of the blocks with mosaic structure of the solid solutions. A reduction of the intensity of the rear X-ray diagram lines in the aging of alloys can probably be explained by the development of dislocations. These dislocations are static distortions caused by the plastic deformation connected with the decomposition. So far the cause of the intensity difference in the hardened duralumin samples has not been explained.

Card 2, 3

X-Ray Analysis of the Changes of Dimensions of
Blocks With Mosaic Structure in Aging

SOV 163-56-4-31, 47

As a summary, it is stated that - just as in previous papers on copper and nickel-beryllium alloys - also here a refinement of the blocks with mosaic structure of the solid solution occurs in aging. There are 4 figures and 13 references, 11 of which are Soviet.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: October 1, 1957

Card 3/3

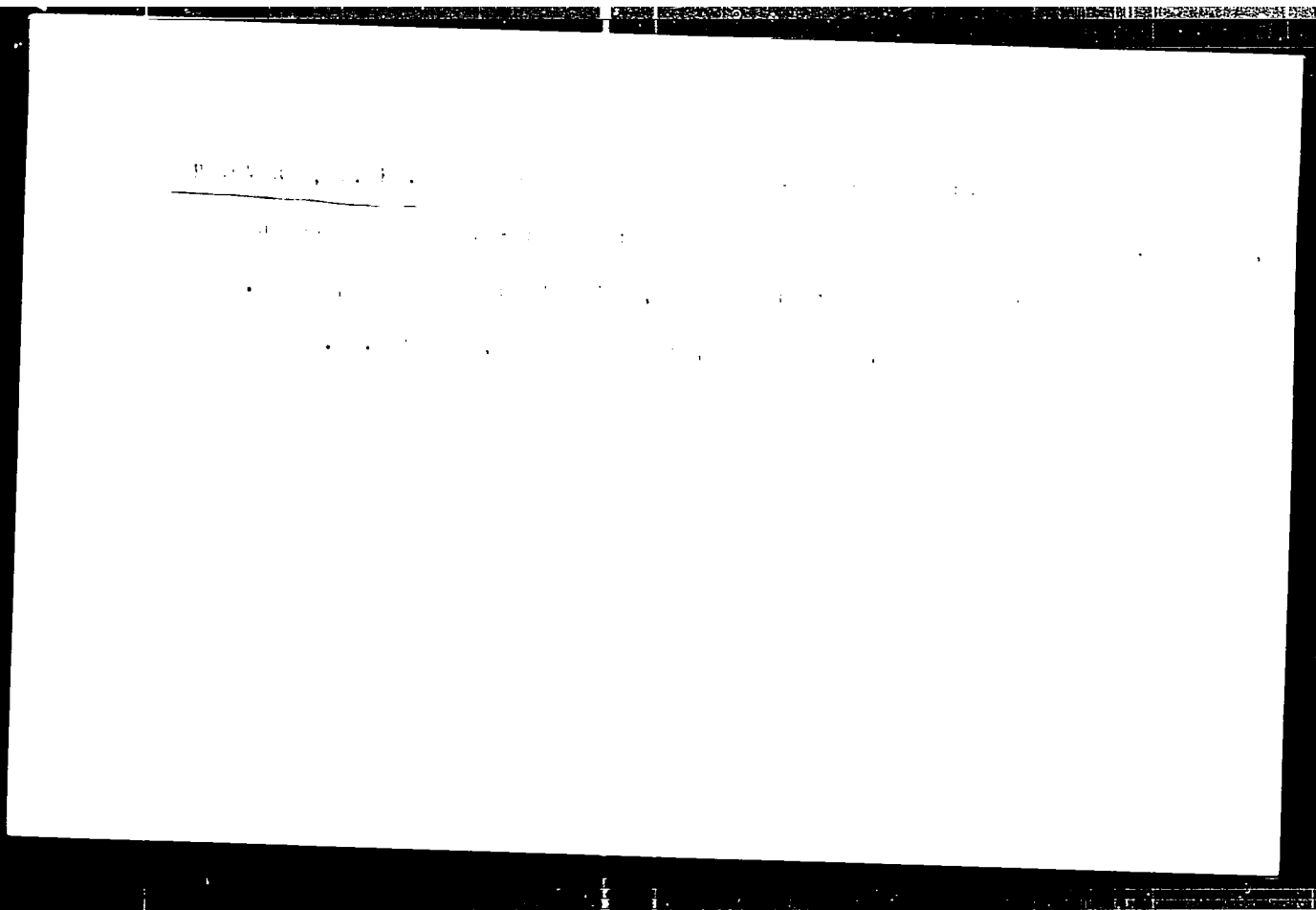
KOVAL'SKIY, A.Ye.; PIVOVAROV, L.Kh.

Changes of the temperature factor in line intensity during the
dissolution of tungsten carbide in cobalt. Fiz. met. i metalloved.
9 no. 4:626-627 Ap '60. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov.
(Solutions, Solid) (Tungsten carbides)

UMANSKIY, Ya.S.; PIVOVAROV, L.Kh.

X-ray method for investigating the mosaic structure of metals.
Zav. lab. 24 no.5:549-554 '58. (MIRA 11:6)
(X-ray crystallography)



18 (7)

AUTHORS:

Pivovarov, L. Kh., Umanskiy, Ya. S.

SOV/48-23-5-24/71

TITLE:

X-ray Analysis of the Transformations of Mosaic Structure on the Aging of Alloys With Ni-Cr Base (Rentgenoanaliz izmeneniya mozaichnoy struktury pri starenii splava na nikhromovoy osnove)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1958, Vol 23, Nr 5, pp 646 - 648 (USSR)

ABSTRACT:

By way of an introduction it is pointed out that textural structure exhibits a considerable influence upon the strength properties of metals and their alloys; a number of pertinent papers is referred to in this connection. The present paper investigates the change in the grain sizes with the aging of the alloy EI-437A. The second part accurately describes the chemical composition of the abovementioned alloy. Sample dimensions and thermal treatment are also mentioned. Investigations were carried out with the K_{α} emission of Cu. The form of the oscillation curve of the reflections (111) was investigated in dependence on the duration of the aging process and the grain sizes. The disorientation of the texture grain was inferred on the strength of these curves. Measuring results concerning the

Card 1/2

X-ray Analysis of the Transformations of Mosaic
Structure on the Aging of Alloys With Ni-Cr Base

SOV/48-23-5-24/31

original grain size Nr 2 are summarized in a table. According to the latter, the grain size decreases from 3 μ to 0.2 μ after an aging of 50h. The decrease of grain size Nr 4 stops after an aging of 20h. There are 1 figure, 1 table, and 8 Soviet references.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

Card 2/2

18.6100

67837

SOV/180-59-6-15/31

AUTHORS: Koval'skiy, A.Ye., and Pivovarov, L.Kh. (Moscow)

TITLE: The X-ray Investigation of the Cementing Phase of Tungsten Carbide-Cobalt Cermet Alloys

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 6, pp 113-120 (USSR)

ABSTRACT: The allotropic modification, the lattice parameter, the grain size and the quality of the surface of VK (tungsten carbide - cobalt) alloys were investigated. Alloys were made by the normal methods for preparing cermets. Co contents from 3 to 25% and sintering temperatures of 1350 to 1550 °C were used. In almost all the alloys the Co existed as the cubic form. Only in VK-3 (containing 3% Co) after sintering at 1420 °C and slow cooling, and VK-8 (containing 8% Co) after sintering at 1470 °C and slow cooling, was the hexagonal form found. The WC content in the Co solid solution does not depend on the quantity of Co in the charge and is determined by the conditions of sintering. The higher the sintering temperature, the greater the amount of WC in solution. The rate of cooling after sintering also affects the WC content in the Co phase, as shown by the

Card
1/2

SOV/180-59-6-15/31

The X-ray Investigation of the Cementing Phase of Tungsten-Carbide - Cobalt Cermet Alloys

change in lattice parameter. A special thermal treatment (tempering) after sintering causes a break-up of the solid solution,¹ similar to the effect of slow cooling after sintering. This is obviously directly connected with the change of properties which occurs on tempering. During sintering a thin film of the cementing phase forms on the surface of the specimen. The higher the Co content in the alloy, the greater the film thickness. With increase in sintering temperature, the film thickness decreases. The mutual stress of the carbide and cementing phases, calculated from values of lattice distortion, increases with increase of Co in the alloy. The grain size of the Co phase is somewhat greater than that of the carbide, and increases with increase of Co content in the alloy. There are 4 figures, 5 tables and 19 references, of which 5 are English, 2 German, 9 Soviet and 3 Czech.

Card
2/2

SUBMITTED: June 29, 1959

5/13/42
R. E. E.

Author: V. A. Isakly, A. Ye. Litvinov, I. M. Kuznet's.

bids on range in number. (1000-11000)

Referativnyy zhurnal. Metallurgiya, No. 11, 1961, 1131-1132 (1962, Tr. Inst. tverdykh spлавov, 1962, No. 1, 113-114).

IXT) on the surface of W-Co sintered carbide specimens the following changes in the relative intensity of a series of X-ray diffraction lines of WC, a particularly high increase is observed in the intensity of the pairs (402) (110) and (040) (110). The effect of grain size and the heterogeneity of specimens in the same grade of carbide and in the same sintering conditions is practically constant at large grain sizes (about 10 μ m). A further increase of the grain size does not change the effect. The effect is a function of the sintering temperature, BK₀ (100) and BK₁ (110), it increases with temperature, and for BK₀ (100) and BK₁ (110). This effect depends also on the duration of grinding the carbide mixtures, the temperature of reduction and carburizing, and grain size.

2011

1. The effect of the etching process on the surface composition of the specimen is studied by means of the Auger electron spectroscopy (AES) technique.

17.3.1.1
Appendix 1

It is stressed that these changes in the relative intensity of the peaks are due to the etching process of the specimen surface. It is found that the etching process is effective in removing the surface layer to a depth of 0.1 mm. After removal of the surface layer to 0.1 mm depth or etching off the surface layer, the relative intensity ratio drops to a magnitude which corresponds to pure W.

1. Brockner

*Abstracts note: Complete translation

and 1.1

4/17/60
A. F. A. 1

ABSTRACT: Referativnyy zhurnal, Metallurgiya, no. 1, 1960, p. 10-11, 12 figs.

Grain size of the γ -phase in antiferromagnetic

114111 A. Referativnyy zhurnal, Metallurgiya, no. 1, 1960, p. 10-11, 12 figs. (in Russian, English summary) *Referativnyi zhurnal, Metallurgiya*

Specimens of bK_2O (VK_2O), bK_2O (VK_2O), BK_2O (VK_2O) and TiK_2O (TiK_2O) were investigated by the X-ray method to determine the effect of carbide composition and the sintering temperature on the grain size of the γ -phase. Changes in the grain size were not observed at sintering temperature variations within $1,18 \times 10^3 - 1,34 \times 10^3$ K. The grain size of the γ -phase increases with a higher Ti content in the carbide and is for VK_2O 0.4μ , for VK_2O 0.5μ , for VK_2O 0.6μ , for TiK_2O 0.7μ . In the TiK_2O carbide the grain size is 0.7μ . The substitution of V and Ti content by composition TiK_2O carbide with a higher Ti content of the γ -phase. The parameter of the γ -phase lattice increases, on the contrary, with higher sintering temperature and a lower Ti content in the carbide.

Abstracted from: Complete translation

114111

and 111

KOVAL'SKIY, A.Ye.; PIVOVAROV, I.Kh.

Deformational packing defects in the cobalt cementation of
solid compounds. Kristallografiya 22 no.2:168-211 (1977) 16p.
(ENR 1978)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh spлавov
(Dislocations in crystals)

IVANKIN, V.A.; MYNIK, I.I.; LITVINOV, I.B.

Regularity of the reproduction of the population of the fish species
for the period 1961-1970.

1971 18:8

1. Vsesoyuznyy nauchno-issledovatel'skiy institut rybnogo khozyaystva.

L 16081-65 EWG(j)/EWT(m)/EPF(c)/EPR/ENP(e)/ENP(w)/ENA(d)/ENP(t)/ENP(k)/ENP(b)
Fr-4/Ps-4 LJP(c)/ESD(gs)/BSD/ASD(f)-2/ASD(m)-3/ASD(m)-2
ACCESSION NR: AP5001940 S/0126/64/018/001/0148/0149

AUTHOR: Pivovarov, L. Kh.; Vlasov, A. I.

TITLE: Interphase stresses in powdered copper hardened by dispersed inclusions of Al_2O_3

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 1, 1964, 148-149

TOPIC TAGS: powder metallurgy, powder metal mixing, copper, aluminum oxide, copper alloy, stress calculation, lattice deformation, lattice distortion, elastic stress

Abstract: In this work a study of microstresses caused by differences in the coefficients of phase expansion was conducted on copper hardened by dispersed inclusions of aluminum oxide. The samples were prepared by the method of powder metallurgy. The initial powders of copper and Al_2O_3 were mixed in corresponding proportions in steel ball mills. Mixing time was 43 hours. The prepared mixtures of copper with 1, 3 and 5% by volume of Al_2O_3 were annealed in hydrogen at 350° for 60 minutes for reduction of copper oxides, and then pressed into blanks with a diameter of 80 mm and a height of 110-120 mm. The blanks were sintered in a resistance furnace. Temperature was slowly raised

Card 1/4

L 16081-65

ACCESSION NR: AP5001940

to 1000° and held there for 2 hours. The sintered blanks were drawn through dies into rods 21 mm in diameter at 750-800°. Research was carried out on thin sections prepared from these drawn bars. In order to eliminate the casing caused by polishing, the samples were annealed at 600° and quenched from this temperature. A study of the magnitude and sign of microstresses caused by a difference in coefficients of expansion was conducted for the copper phase on the displacement of x-ray lines according to methods worked out by one of the authors on the basis of the work of D. M. Vasil'yev (Zhurnal Tekhnicheskoy Fiziki, Vol 28, No 1, 1958, p 2527). The technique proceeds from the existence of an equiaxial volume-stressed state in the volume of the given phase of the alloy. This state is created by a system of oriented microstresses (σ) of a definite sign. On the surface of the alloy, in the volume being x-rayed, the component which is perpendicular to the surface is partially reduced, but preserves some noticeable value. The lattice deformation caused by these microstresses at angle ψ between the reflecting plane and the surface of the sample ($\epsilon \psi$) may be calculated by the formula

$$\epsilon \psi = \sigma / [E(1 + \mu)] \sin^2 \psi - 2\mu / [E(1 + \mu)] (1 - \sin^2 \psi)$$

where E and μ are the modulus of elasticity and Poisson's ratio respectively of given reflecting planes of the phase being studied. Calculations show that

Card 2/4

L 16081-65
ACCESSION NR: AP3001940

oriented microstresses of a considerable magnitude in copper with dispersed aluminum oxide inclusions appear in the copper phase. The difference between the coefficients of expansion of copper and aluminum oxide may be considered the probable cause of these microstresses. The microstresses increase with an increase in the quantity of Al_2O_3 of 1 to 3%. No difference was observed in the magnitude of microstresses between samples with 3 and 5% Al_2O_3 . This is probably a result of the fact that the yield strength has already been reached at 3% Al_2O_3 . Only elastic stresses which cannot exceed the yield strength have been measured radiographically. A further increase in the quantity of Al_2O_3 probably leads to an increase in the amount of plastic deformation of the copper phase. The line width increases with a transition from 1% Al_2O_3 to 3% and again from 3 to 5%. This increase may be explained by the increase in distortions of the copper lattice of the alloy (presence of disoriented microstresses, small block dimensions, etc.). The oriented and disoriented microstresses in copper, strengthened by dispersed inclusions of Al_2O_3 , are probably some of the factors which determine the strength of these materials. Orig. art. has 1 table and 1 equation.

Card 3/4

L 16081-65

ACCESSION NR: AP5001940

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov
(All-Union Scientific Research Institute of Hard Alloys)

SUBMITTED: 20Aug63

ENCL: 00

SUB CODE: MM, AS

NO REF SOV: 003

OTHER: 003

JPRS

Card 4/4

FINOVAROV, Lev Aleksandrovich (Finovarov, L. A.), kand. tekhn.
nauk; GRIN', Levii Petrovich (Grin', L. P.), kand. tekhn.
nauk; Primal'naia uchastka KIB VEB KA, 1961: 1962-
1963, red.

(Fundamentals of safety engineering) ...
peky. Kyiv, Ukrain'ska nauka, 1961. 100 p.

PIVOVAROV, N.V.; RABINOVICH, S.G.; TAKCHENKO, A.N.; ISMAN V. V.R.;
YATMANOV, B.A.

Photocompensating stabilizers. Izv. tekhn. no. 44-45 Mr. 1966.
(MIRA 1966)

L 3/833-65 EWT(d)/EWT(1)/EEC(k)-2/EEC-4 Po-4/Pq-4/Pg-4/Pk-4/Pl-4 IJP(c)
ACCESSION NR: AP5004543 S/0048/65/029/001/0166/0167

AUTHOR: Pivovarov, S.P.; Ryabikin, Yu.A.; Zhernovoy, A.I.; Latyshev, G.D. 48

TITLE: Equipment for stabilization of inhomogeneous magnetic fields, based on electron paramagnetic resonance /Report, 14th Annual Conference on Nuclear Physics held in Tbilisi 14-22 Feb 1964/ 71

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.29, no.1, 1965, 166-167

TOPIC TAGS: inhomogeneous magnetic field, magnetic field measurement, electron paramagnetic resonance, nuclear paramagnetic resonance 71

ABSTRACT: Apparatus is briefly described with which a stabilization factor of 100 was achieved in the stabilization of a 165 Oe magnetic field with inhomogeneities of the order of 2 to 10% per cm by the use of an electron paramagnetic resonance head, the linear dimensions of which did not exceed 2 mm. The stabilization achieved was actually limited by the frequency stability of the oscillator employed and could be increased by employing a more stable oscillator. The theory of paramagnetic field stabilization is discussed briefly. The advantage of electron paramagnetic resonance over nuclear paramagnetic resonance for this application is due to

Card 1/2

I. 32833-65

ACCESSION NR: AP5004543

the greater magnetic moment of the electron. Orig.art.has: 6 formulas and 1 figura

ASSOCIATION: none

SUBMITTED: 00/--Jan65

ENCL: 00

SUB CODE: NP,EM

NR REF SOV: 002

OTHER: 001

Card 2/2

PIVOVAROV, Yakov Iosifovich; KRAMSKIY, A.I., ed.

[Overall mechanization of procedures for the preparation of production (by means of computers)] Kompleksnaya mekhanizatsiya raschetov po podgotovke proizvodstva (na osnove primeneniya vychislitel'noi tekhniki). Leningrad, 1964. 37 p. (MI A 18:3)

PIYAVSKIY, P , inzh.

Reconditioning plunger pairs of pump and injector units.

Avt. transp. no. 8:25-29 Apr '64.

(MIRA 1110)

PIVOVAROV, L.Kh.; YANSHIN, S.I.; SEMERCHAN, A.A.; BARKIN, M.I.

Effect of high pressures and temperatures on tungsten carbide. Fiz. met. i metalloved. 1979, 41, 1000-1004, 1005.

(MIRA 1118)

1. Vses y znyy nashin -
s:lav v.

SEMERCHAN, A.A.; BASKIN, M.L.; PIVOVAROV, L.Kh.

Effect of high pressure and high temperature on the Ti5K6
hard alloys. Fiz. met. i metalloved. 15 no.6:941-943 Je '77.
(MIRA 16:7)

1. Institut fiziki vysokikh davleniy AN SSSR.
(Power metallurgy)

L 14284-63

BNP(q)/BNP(m)/BDS APTQ/ASD JD/BN-2/30

ACCESSION NR: AP3002036

8/0126/63/015/006/0941/0943

AUTHOR: Semenov, A. A.; Baskin, M. L.; Pivovarov, L. Kh.

TITLE: Effect of high hydrostatic and elevated temperature on hard alloy T15K6

SOURCE: Finika metallov i metallovedeniye, v. 15, no. 6, 1963, 941-943

TOPIC TAGS: T15K6 hard alloy, T15K6 alloy composition, T15K6 alloy phase composition, T15K6 alloy hydrostatic compression, T15K6 alloy high-temperature hydrostatic compression, high hydrostatic pressure

ABSTRACT: The effects of high hydrostatic pressure (up to 100,000 kg/cm²) and temperature (up to 1400C) on the V-base alloy T15K6 (12.7% Ti, 7.7% C, 6% Co, 0.1% Fe) were studied. The structure of the alloy consisted of three phases: WC carbide; a TiC-WC solid solution containing 60% WC; and a Co phase, a solid solution of small quantities of V (up to 3%), Ti (up to 0.5%), and C (up to 0.5%) in Co. Cylindrical specimens 6 mm in diameter and 8 mm long were subjected to a pressure of 100,000 kg/cm² and temperature of 1400C for 5 min and then cooled at the rate of 15C/min. Microscopic examination revealed no changes in porosity (up to 0.8%), graphite content (up to 0.5%) or grain size of WC (3.46 μ) and TiC-WC (3.60 μ). Many micro- and macrocracks were found in most

Cont 1/2

1 1b284-53

ACQUISITION NO: AP300896

Specimens. The average specific gravity, 11.25 g/cm^3 , increased to 11.48 g/cm^3 in specimens with few cracks. The Vickers hardness decreased from 1480 kg/mm^2 to 1180 kg/mm^2 . X-ray diffraction patterns revealed that the lattice parameter of the TiC-WC phase decreased from 4.5119 to $4.505 \text{ \AA}$ and that the diffraction lines of both carbide phases broadened. The decrease of the lattice parameter is explained by additional dissolution (up to 5%) of WC in the TiC-WC phase; the broadening of diffraction lines, by an increase of microstresses and block fragmentation. Orig. art. has: 1 table.

ASSOCIATION: Institut fiziki vysshikh davleniy AN SSSR (Institute of Physics of High Pressures, AN SSSR)

SUBMITTED: 09Nov62

DATE ACQ: 23Jul63

REF: 00

SUB CODE: NL

ED REF SUB: 003

OTHER: 000

Card 2/2

PIVOVAROVA, L.I.; STARSHINOVA, S.K. (Moskva)

Calculating time norms for work on the manufacture of caps. Shvein.
prom. no. 4:14-17 J1-Ag '60. (MIRA 14:3)
(Headgear—Production standards)

PIVOVAROV, L.Kh.

Determination of corrections in measuring the intensity of X rays.
Zav.lab. no.11:1332 '59. (MIRA 13:4)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov.
(X rays)

PIVOVAROV, L.L.

Therapy of acute suppurative mastitis. Sovet. med. 17 no. 1:11-13
Jan 1953. (CJML 24:1)

1. Moscow.

PIVOVAROV, L. L.

Tissue therapy. Feldsher & akush., Moskva no. 11: 34-36 Nov. 1961.
(CML 21:3)

PIVOVAROV, L. L.

FA 1 37 1

USSR/Medicine - Tissue Therapy

Nov 51

"Tissue Therapy," L. L. Pivovarov

"Fel'dsher i Akusherka" No 11, pp 34-36

On the basis of own experience, describes successful treatment of bronchial asthma, gastric ulcers, ozena, otosclerosis, psoriasis, lupus, eczema, etc., by G. Ye. Rumyantsev's method of tissue therapy (implantation of various specifically active animal tissues which are effective as biogenic stimulants).

193T62

1. PIVOVAROV, I. I.
2. USSR (600)
4. Breant - Diseases
7. Therapy of acute suppurative mastitis. Sov. med. 17, no. 1, 1963.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

PIVOVAROV, L. L.

Penicillin - Therapeutic Use

Therapy of acute suppurative mastitis. Sov. med. 17 no.1, 1953

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Unclassified.

KOJAN, G.B., PIVOVAROV, L.M.

Testing control cables in electric installation work in oil
fields. Energ. biul. no. 5:28-29 My '58. (MIRA 11:8)
(Electric wiring)

PIVOVAROV, L.N., inzhener; IVANENKO, N.Ya., inzhener.

Mechanized construction of a drydock in the Bulgarian People's
Republic. Mekh.trud.rab. 10 no.3:39-42 Mr '56. (MIRA 9:7)
(Bulgaria--Dry docks)

f/1 USSR/Cultivated Plants - Potatoes, Vegetables, Melons.

M-3

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10806

Author : Kukharevskiy, B.V., Yarchuk, I.I., Pivovarov, L.P.

Inst : Kherson Agricultural Institute.

Title : Humic Fertilizers as a Factor in Raising the Productivity of Vegetables and Potatoes.

Orig Pub : Nauchn. zap. Khersonsk. s.-kh. in-ta, 1957, No 6, 112-124.

Abstract : Under Khersonskaya oblast' conditions sodium humate and humophosphorous [?? gum fos] were tested on potato, cabbage, and tomatoes and compared with humus, peat, and NPK. The results are also given of experiments with humophosphorous in the kolchozes of the oblast'. Yield increase from using humic fertilizers are either so minimal as to be within the limits of error of the experiment or they were achieved with very low harvests.

Card 1/1

COUNTRY : USSR M
 CATEGORY : Cultivated Plants. Potatoes. Vegetables.
 CUCURBITA
 ABS JLR. : ZhBiol., No. 2, 1969, No. 1652
 AUTHOR : Kukharovskiy, B.M.; Filyarov, L.M.; Yashuk, I.Y.
 INSTIT. : Kharkov University
 TITLE : The Effectiveness of Humus Fertilisers under Potato and Vegetables in the South of the Ukrainian Socialist Soviet
 ORIGIN : V sb.: Urodzhay i obrodniya. Kharkov, Kharkov
 DATE : 1967
 SUBJECT : The effectiveness of humus fertilizers- humophos and sodium humate- was checked in the year 1964 and 1965 on poor sandy and chestnut soils in the southern part of the Ukrainian Socialist Soviet Republic. In experiments with potato, the yield boost from humophos in broadcasting dose was 10 cwt/ha, for the usual 50g average 20-40%. When broadcasting a similar effect was obtained only from 10% concentration of compost. The latter in equal doses with humophos in single introduction acted much easier.
 CARD: 42

Republic

CATEGORY : Plant Physiology, Respiration and Metabolism.

ABS. JOUR. : RZhBiol., No. 6 1959, No. 24500

AUTHOR : Khriateva, L.A.; Pshenichny, A.Ye.; Pivovarov, L.R.

INST. : Khar'kov University

TITLE : The Influence of Humic Acid on the Activity of Higher Plants Under Different Conditions of Mineral Nourishment and Environment.

ORIG. PUB. : Vses. Gruzinyye udobreniya, 1957, 104-106

ABSTRACT : Sprouts of agricultural plants were grown in sandy cultures with different proportions of N and P in the feeding mixture. Na humate was added in quantities of 25 milliliters of 1% dilution per container. The Na humate contributed to a fuller use of mineral nutrients by the plants, especially in conditions of deviation from standard mineral nourishment (phosphoric starvation). Under conditions of normal N supply, Na humate contributed to a better use of P, increased the

CARD: 1

ABS. JOUR. : RZhBiol., No. 6 1959, No. 24500

AUTHOR :

INST. :

TITLE :

ORIG. PUB. :

ABSTRACT : activity of catalases and amylases, and stimulated the formation of sugars and **protein**, especially during the vernalization phase. Na humate aids in the formation of **protein** in the beginning of plant development and of carbohydrates in the flowering stage. Na humate increased the drought resistance of the plants and during periods of water scarcity promoted better use of mineral nutrients. The increased effectiveness of Na humate when the plants are in unfavorable

CARD: 2/3

PIVOVAROV, L. N.

USSR

The reciprocal relation between mineral and organic nutrition of higher plants and the utilization of humic acids as fertilizer. L. A. Khristova, L. N. Pivovarov, A. R. Polubinskaya, and I. I. Yarchuk (1985, 1986, Kherson). *Prilozheniya*, 1984, No. 12, 1-10; cf. C.A. 69, 3886y. Addition of 800 ml. of 0.001% soln. of Na humate, extd. from peat, to 10 kg. of seed and the standard nutrient soln. gave a considerable increase of potatoes. With a gain. 1:1:1 of NPK on the standard, soln. of Na humate made it possible to reduce the amt. of P to 1/2 and still the yields were higher and the vitamin C content also increased. Addition of humate had a pos. effect on the formation of invert sugars in the leaves of potatoes. With low N levels there was the highest accumulation of sugar in the leaves. During flowering, the cultures treated with humates increased the ratio of disaccharides to monosaccharides. This indicates that the humates are effective in converting the simple into more complex sugars. It is postulated that the humates are involved with the oxidation-reduction potentials. This is (0025)

L.A. KRISTEVA

Extract from the manuscript that the activity of the per-
oxidase and catalase under the influence of the hormone
induced possible with the activity of the synthetic substance.
In an experiment with a substance known as it is shown
that, in addition to the presence of catalase, it contains the
most active enzyme, lysozyme, which is active against the
bacteria. The enzyme is active with catalase, lysozyme,
which the enzyme is active with the hormone water, as by
the action of the hormone 200 to 300 mg. 1 ml. of
water during the growing season. It takes 20-30 mg. of
hormone for 1 ha. of 20-30 ha. to obtain the necessary for
growth of plants. The hormone may be used in the form
of a solution of 0.5% (0.5 g. of 10% solution) and a
10% by vol. of H₂O and ammonium phosphate (20 mg.). The
final product contains 0.5% N and 0.5% H₂O-sol. P₂O₅ at
a 65% H₂O content. This is known as hormone.

J. S. J.

1/2

USSR / Plant Physiology. Mineral Nutrition.

I-2

The Jour : Izv Zhur Biol., No 22, 1958, No 99914

Author : Khristova, L. .; Pshonichnyy, A. Ye., and Zivovarov, L.F.
Inst : Kherson Agricultural Inst.

Title : The Interrelationship of the Organic and Mineral Nutrition
of Agricultural Plants and the Influence of Environmental
Conditions on These Processes.

Orig Pub : Izvchr. Zpp. Khersonsk. S. Kh. Inst., No 6, 61-62, 1957

Abstract : Description of the results of vegetation and field experi-
ments conducted since 1946 with regard to investigating the
role of humic acid (H) in the nutrition of agricultural
plants. The influence of H on metabolism and harvest is
more noticeable under conditions of the deviations of mine-
ral nutrition from the norm. At a deficiency of P or excess
of N the introduction of H caused a considerable increase

Card 1/2

PIVOVAROV, L. R.

U S S R .

6188* Interrelationship Between Mineral and Organic Nutrition of Higher Plants and the Use of Humic Acids as Fertilizers. O vzaimosvyaizhenii mezhdu mineral'nymi i organicheskimi pitaniami vysshikh rastenii i ispol'zovaniim guminovykh kislot v kachestve uboreshii. (Russian.) I. A. Khrsteva, L. R. Pivovarov, A. E. Pishchichnyi, and I. I. Iarchuk. *Pochvovedenie*, 1984, number 2, Doc. p. 1-10.

Sodium humate and potato yield, chlorophyll and ascorbic acid formation in potato leaves. Tables. 7 rel.

PIVCHAROV L.B., KOLYUBA V.G., VULF L.N.

Effect of warming peat in a pile on its fertilizing properties.
Torf. prom. 38 no. 2 16-29 '61. (MIRA 14 12)

1. Dnepropetrovskiy sel'skokhozyaystvennyy institut.
(Peat industry)

S/081/62/000/010/061/085
B168/B180

AUTHORS: Malkin, M. G., Pivovarov, V. M. —

TITLE: Dielectric properties of Latnaya clays with additions of titanium dioxide in the 50 - 25,000 kc/s range

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1962, 412, abstract 10K186 (Tr. Voronezhsk. un-ta, v. 55, 1961, 87 - 94)

TEXT: Investigation established that additions of TiO_2 reduce the sintering temperature of semiacid Latnaya clay to 1320°C. By varying the additions of TiO_2 it is possible to produce ceramics with appreciable permittivity (58.8), which falls as the frequency increases. The dielectric loss angle diminishes with small additions accompanied by an increase in frequency. [Abstracter's note: Complete translation.]

Card 1/1

PIVOVAROV, S., inzh.

KKB-3 combine for harvesting corn. Nauka ipered. op. v
sel'khoz. 8 no.9:57-58 S '58. (MIRA 11:10)
(Corn (Maize)--Harvesting) (Combine (Agricultural machinery))

PIVOVAR, S.G. [Pyvovar, S.H.], inzh.

Correct laying-out of a checkrow wire. Mekh. sil'. hosp. 13
no.4:13-14 Ap '62. (MIRA 17:3)

PIVOVAROV, S. P.

"Electron Tube Voltage Stabilizers," Zhur. tekhn. fiz., No. 11, 1961

PIVONAROV, S. P.

PA 34T22

USSR/Electronics
Television - Apparatus
Voltage - Regulation

Jun 1967

"Electronic Stabilization Devices for Use in Television
Engineering," S. P. Pivovarov, 6 pp

"Zhur Tekh Fiz" Vol XVII, No 3

In wide band television amplifiers, special electronic
stabilizers are used in the plate supply of the tubes,
which guarantees a constant voltage supply with vari-
ations in the line voltage and load current. Two
plans which are in use are analyzed in the article.

34T22,

IN V.R.V., 1.1.

PA 10/40TH

USSR/Electricity
Amplifiers, Low-Frequency

Jan 48

"Amplifier for the Very Low Frequencies," S. P.
Pivovarov, 5 $\frac{1}{2}$ pp

"Zhur Tekh Fiz" Vol XVIII, No 6

Describes amplifier with high input resistance, admitting pulses from 5 to 10,000 cycles with amplification factor of 150,000. Analyzes operation of separate stages and selection of power supply. Submitted 27 Jan 48.

10/4952

PIVOVAROV, S. P.

PA 3/50T22

USSR/Engineering - Stabilizer, Electro- Jul 49
magnetic
Transformers

"Electromagnetic Voltage Stabilizer With a Series-
Connected Capacitance in the Primary Winding." S.P.
Pivovarov, Cand Tech Sci, Sci Res Inst, Min of
Communications Equipment Ind USSR, 3 pp

"Elektrichestvo" No 7

Gives results of analytical study of an electro-
magnetic stabilizer consisting of a loaded trans-
former and a capacitance connected in series with
its primary winding. Detailed mathematical treat-
ment verified by experimental results.

3/50T22

PIVOTALOV, S.P.

20661

K Raschvetu Elektromagnitnogo

Stabilizatora Napravazhveniya. Vvestnik

Elektroprom-sti 1949, No. 8 s. 19-1

SO: LETOPIS' NO. 10

PIVCHAROV S. P.

UsSR/Electronics
Voltage Regulator
Transformers

May/Jun 49

"The Theory of the Ferroresonance Voltage
Regulator," S. P. PIVCHAROV, All-Union Sci Res
Inst, 9 pp

"Avtomat i Telemekh" Vol X, No 3

Analytical solution and study of operating
characteristics of a ferroresonance regulator
consisting of two transformers (or a trans-
former and an autotransformer), primary and
secondary windings of which are joined in series

44/49733

UsSR/Electronics (Contd)

May/Jun 49

and inserted in the circuit, the first in the
alternating current circuit and the second in
the load. Secondary winding of the first trans-
former is sometimes called a compensating wind-
ing. Second transformer operates in a state of
magnetic saturation, and is additionally loaded
by a capacitance. Submitted 28 May 48.

44/49733

TRANSLATION FROM: Referativnyy zhurnal, Elektrotekhnika, 1957, 112-2-4602
Nr 2, p. 307 (USSR)

AUTHOR: Pivovarov, S. P.

TITLE: A Ferro-resonance Voltage Stabilizer With Double Series Resonance (Ferrorezonansnyy stabilizator napryazheniya s dvoynym posledovatel'nym rezonansom)

PERIODICAL: Tekhnika televideniya (M-vo radiotekhn. prom-sti SSSR), 1955, Nr 9 (15), pp. 85-91

ABSTRACT: The stabilizer with transformer and series capacitance has the defect of sharply reducing voltage stability during load change. A circuit is proposed which will ensure considerable greater stability. In this circuit the output voltage is the difference of voltages at the two reactance elements. An analysis of such a stabilizer circuit is made, and optimum circuit parameters are recommended. The analysis is illustrated with graphs. A comparison is made of experimental and calculated curves of voltage at the stabilizer output for various network voltages.

Card 1/1

V.A.K.

PIVOVAROV, S. P., Doc Tech Sci -- (Miss) "Theory and Investi-
gation of Ferro-Resonance ^{or Voltage} Stabilization ~~of Voltage~~" Len-Mos,
1957. 27 pp with ^{drawings} ~~diagram~~ (Acad Sci USSR, Inst of Automation
and Telemechanics), 100 copies. List of author's works p 87
(12 titles) (KL, 48-57, 106)

- 23 -

SOV/112-58-2-2586

Translation from: Referativnyi zhurnal. Elektrotehnika, 1958, Nr 2, p 127 (USSR)

AUTHOR: Pivovarov, S. P.

TITLE: On the Theory of a Spaced-Winding Stabilizer
(K teorii stabilizatora s raznesennymi obmotkami)

PERIODICAL: Tekhnika televideniya (Mirovaya radiotekhnika promyshlennosti SSSR), 1957,
Nr 20-22, pp 67-82

ABSTRACT: An analysis of the operation of a conventional ferroresonance voltage stabilizer is presented which is, in fact, an approximate solution of the non-linear differential equation of the stabilizer circuit. The core magnetization curve has been approximated by the expression $\frac{\Sigma W}{l} = \gamma_1 B + \gamma_2 B^3$.

Only the fundamental and the third flux harmonics are considered in the solution. Expressions are developed for the current and voltages of the stabilizer and for an optimum parameter selection. The effect of specified parameters on the stabilizer output-voltage waveshape is analyzed. A simple method is recommended for determining leakage fluxes by a conditional division of the

Card 1/2

SOV/112 58-2-2586

On the Theory of a Spaced Winding Stabilizer

total leakage flux into three parts: a core window flux, and two winding-leakage fluxes that pass along the core, within the coil and without the coil along the entire perimeter. In the case of a magnetic-shunt-type stabilizer the short flux and short window flux are taken into account additionally. Design data have been verified with two 100-v and 1,000-v ferroresonance stabilizers; the results have been entirely satisfactory. In the above approximation the following values are used: $\gamma_1 = 0.25 \times 10^{-3}$, $\gamma_2 = 0.8 \times 10^{-36}$, $\alpha = 9$ (1st approximation), 8 (Bibliography, 8 items).

Ya S.G.

Card 2/2

110-9-14/23

AUTHOR: Pivovarov, S.P., Candidate of Technical Sciences.

TITLE: An Analysis of a Ferro-resonance Voltage Stabiliser with a Compensating Circuit Connected in Series with the Load.
(Analiz ferrozonansnogo stabilizatora napryazheniya s kompensatsionnym konturom, vklyuchennym posledovatel'no s nagruzkoy)

PERIODICAL: Vestnik Elektromyashennosti, 1957, Vol.28, No.9,
pp. 49 - 53 (USSR)

ABSTRACT: A circuit such as that shown in Fig.1 is connected in parallel or in series with the load to compensate voltage changes caused by frequency variations. In principle, such circuits can be connected to the output of any stabiliser circuit. When analysing the operation of a stabiliser in this case, its load must be considered in the form of active and reactive conductances. An expression is written for these conductances and an equation for the voltage on the load is derived. The influence of change of frequency on the characteristics of the stabiliser is illustrated by the curves in Figs. 2 and 3. The condition for voltage stabilisation when the frequency is changed is that the voltage on the load shall be equal. This requirement is expressed mathematically and corresponding mathematical analyses are made for series- and

8(7)

AUTHOR:

Pivovarov, S. P., Docent, Candidate of S. V. 1955 - 1956
Technical Sciences

TITLE:

Investigation of Electric Circuits With Non-Linear Inductance
(Issledovaniye elektricheskikh tsepey s nelineynoy induktiv-
nost'yu)

PERIODICAL:

Elektrichestvo, 1955, Nr 12, pp 27 - 30 (USSR)

ABSTRACT:

The inductance of a retardation coil of a transformer or of an auto-transformer depends on the quantity of the current flowing through. That is to say these elements show typically non-linear characteristics. Here a method is explained with the help of which one cannot only find out the total and amperages of the fundamental oscillation, but also those of the third harmonic oscillation. The formulae (1) and (2) for the amperage and the induction as to a balanced operation are recorded. The approximate formula (3) is given for the magnetisation curve. (1) and (2) are put into (3) and the formulae (4) and (5) are obtained by following the method of the Academician Golovinski. The amperages, searched for, tensions and inductions for concrete circuit-diagrams are found.

Card 1, 2

Investigation of Electric Circuits With Non-Linear
Inductance

SVV 12-1-10-11

for the first and the third harmonic oscillations by means of
solution of (1), (2), and (3) system of algebraic equations.
The advantage of this method lies in the fact that the
system of differential equations is to be formed and solved.
There are 6 figures.

SUBMITTED: January 10, 1961

Card 2/2

SOV/110-59-6-14/24

AUTHOR: Pivovarov, S.P., Candidate of Technical Sciences

TITLE: The Design of Ferro-Resonant Voltage Stabilisers
(Raschet ferrozonansnykh stabilizatorov napryazheniya)

PERIODICAL: Vestnik elektromyashlennosti, 1959, Nr 6, pp 60-64 (USSR)

ABSTRACT: This article gives a design procedure for ferro-resonant voltage stabilisers with inductive ballast loads; schematic diagrams are given in Fig 1. In some of these, where the primary and secondary windings are wound on different legs, the leakage fluxes act as an inductive ballast. In the variant of Fig 1b, however, the ballast is in the form of a transformer with an air-gap in the core. The characteristics of these ferro-resonant voltage stabilisers operating with an active load are briefly stated. The information required for design and calculation of the voltage stabilisers is enumerated. The design of voltage stabilisers with transformers, as in circuit Fig 1b, is then considered. The treatment is detailed and mathematical. A procedure is described for checking whether there is any risk of double-frequency oscillations. If the condition defined by Eq (27) is fulfilled, oscillations may occur at the

Card 1/2

SOV/110-59-6-14/24

The Design of Ferro-Resonant Voltage Stabilisers

supply voltage given by expression (28). The design of the stabilisers in which the primary and secondary windings are on separate legs is then considered much more briefly and the necessary formulae are derived. There are 3 figures, 1 table and 5 Soviet references.

Card 2/2